AGRICULTURE CREDIT: A CONCEPTUAL ANALYSIS

Bhupen Pathari

HOD, Dept. Of Economics, Haflong Govt. College, Haflong, Dima Hasao, Assam

ABSTRACT *The new agricultural technology is usually capital intensive. The demand for farm credit has increased manifold in modern times and the supply of credit is not sufficient to meet the expanding credit needs of agriculture. The additional returns from the productive investment were expected to be substantially higher than that of additional cost incurred on it. Borrowers were expected to repay the loans along with interest due on it without any difficulties. The proper utilization of credit increases the agricultural production and consequently the repaying capacity of the borrowing farmer. However, if the credit is not utilized for the productive purposes, it fails to increase the rate of capital formation in agricultural sector. Like other credit markets, agriculture credit market also faced adverse selection and moral hazard problems in which lenders unable to observe or monitor of the behaviour of borrowers where increase in the risk of the borrowers' ability to repay the loan.*

INTRODUCTION

The new agricultural technology is usually capital intensive. The main objective for the liberation of institutional credit to the farmers was to help them in increasing their resource productivities through judicious use of modern farm inputs. The additional returns from the productive investment were expected to be substantially higher than that of additional cost incurred on it. Borrowers were expected to repay the loans along with interest due on it without any difficulties. The proper utilization of credit increases the agricultural production and consequently the repaying capacity of the borrowing farmer. However, if the credit is not utilized for the productive purposes, it fails to increase the rate of capital formation in agricultural sector.

There is a strong positive relationship between agricultural productivity and availability of credit. Broadly, credit in agricultural sector may be divided into short-term loans to meet the input expenses and medium and long-term loans to facilitate the development of fixed farm assets such as land. The short-term loans or crop-loans are expected to bridge the gap in the short or long term resources of the borrowers. This gap arises in relation to static or dynamic production function. Under a static functioning the level of input use per hectare of cropped area being constant, the year to year variation in the amount of credit reflects the changes in input prices. The supply of credit related to static production conditions will not contribute to an increase in output, although the withdrawal of it might lead to a decline in output. Under dynamic function, credit demands would rise from year to year even if input prices remain constant. The growth in credit under such dynamic conditions would lead to an increased output. Similarly, the investment credit too would lead to an improvement in the production potential of the farms through the process of net capital formation.

Credit acts as a facilitator and it performs the important function of providing the borrowers with the requisite control over resources affecting production. It is difficult to establish a direct relationship between credit and output as the former facilitates the adoption of new technology and the level of inputs usage which in turn directly influence the productivity.

Efficiency in production is how much output is obtained from a given set of inputs. As such, it is typically expressed as an output-input ratio. Single factor productivity reflects units of output produced per unit of a particular unit. Labour productivity is the most common measure of this type, though occasionally capital or even materials productivity measures are used. Single-factor productivity levels are affected by the intensity of use of the complementary inputs. Two producers may have quite different labour productivity levels even though they have same production technology if one happens to use capital much more intensively.

Because of this, researchers often use a productivity concept that is invariant to the intensity of use of observable factor inputs. This measure is called total factor productivity (TFP). Conceptually, TFP differences reflect shifts in the isoquants of a production function. Higher TFP producers will produce greater amounts of output with the same set of observable inputs than lower TFP businesses and, hence, have isoquants that are shifted up and to the right. Factor price variation that drives factor intensity differences does not affect TFP because it induces shift along isoquants rather than shifts in isoquants.

TFP is most easily seen in the often-used formulation of a production function where output is the product of a function of observable inputs and a factor-neutral (alternatively, Hicks-neutral) shifter;

$$Q = A \, F \, (K, L, M)$$

Where, Q is output, F (.) is a function of observable inputs, capital (K) labour (L) and intermediate materials (M), and A is the factor-neutral shifter. In this type of formulation, TFP is A.

The basic concept of multiplier says that the effect of investment on output and employment is manifold than the original increase in investment. The same can be distinctly demonstrated in a credit programme for the agricultural productivity through the continuous expansion of the investment base. Income rises if borrowings from the banks are being channelized into investment. The vicious cycle of "Low income, Low savings, Low investment, and Low in-

crease" can be broken with the injection of credit in the cycle. Most often those who save and those who invest are two different groups of people. Savings is put deposits while investors go to the bank and borrow the savings of others at a price.

According to the Neo-classical growth model, factor accumulation exhibits diminishing returns. Thus, for sustainable long-run growth, a country cannot rely solely on accumulation of factor inputs, but must strive to sustain growth in technology.

Productivity refers to the efficiency with which an economy transforms inputs into useful outputs. In growth accounting, investment and employment are the basic inputs of economic growth. Prof. W.A. Lewis describes the relationship between capital, technical progress and productivity which are regarded as important determinants of growth. He also argues that capital is not only created out of profits earned, it can also be created as a result of net increase in money supply, especially bank credit. Creation of banks works as an accelerator in growth of real income. It raises both output and employment. Bank credit helps in the expansion of employment, output, effective demand and purchasing power of the community.

Estimates of productivity can be made as the difference between actual output and output estimated by a production function using actual input quantities. The producer's problem is to maximize production in a particular period, subject to a budget constraint. A reference can be made Cobb-Douglas production function to represent the relation between inputs and outputs.

$$\text{Max } Q = (K, l, L) \quad .... \quad (1)$$

$$\text{Subject to} \quad w_k K + w_l l + w_L L = C \quad .... \quad (2)$$

Where,
Q = Production
K = Capital
l = Land
L = Labour
C = Total fund, determined as follows

$$C = C_1 + C_2 \quad .... \quad (3)$$

Where,
C_1 = own fund, and
C_2 = borrowed fund

This analysis focuses on the relation between the total fund C which is subdivided between the present value of future production C_1 and the ability to borrow against future cash flows C_2. A producer's budget increases with borrowing in this framework. Producers can take advantage of this increase to enhance productivity. A producer's budget further increases with the present value of future production. This effect follows because lenders favourably view expected increases in production. Thus a producer will be able to borrow greater amounts when the value of his future productivity is expected to be high.

The credit demand of a farmer varies from crop to crop, season to season and from region to region. The credit demand of a farmer is functionally related with the cost of exogenous inputs like fertilizers, seeds, pesticides, irrigation, etc. Both agricultural productivity and agricultural investments are positively associated with the incremental

as well as total values of several functions of financial institutions. With regard to the extension of credit facilities to the farmers, Mellor feels that a mere supply of financial assistance to the agriculturists, at low rate of interest, is not sufficient. There should be no diversion of funds to other purposes. If it does so, there will be no increase in productivity in agriculture.

The asymmetric information problems that makes credit markets essentially imperfect, even in the presence of competitive among a large number of lenders. Lenders unable to observe or monitor the behaviour of borrowers in certain respects, which leads to adverse selection and moral hazard. In the adverse selection the potential borrowers most likely to produce an undesirable outcome who are most actively seeking loan and are most likely to be selected. On the other hand, moral hazard in financial market occurs when borrower has an incentive to engage in undesirable activities from the lenders' point of view and it may leads to an increase in the risk of the borrowers' ability to repay the loan.

Credit to farmers may be generally categorised as higher risk, requiring a higher degree of capital coverage. Another consideration would be the risk-weighting of loan portfolio assets according to past repayment performance. The result of assigning agricultural loans to a higher risk category would result in an increase in costs of agricultural lending, as it decreases the possible financial leverage of a financial institution. The process of loan classification creates extra costs, which have to be weighed against the benefits of differentiation. In the regulations system of supervisions, may enlarge their work load substantially and thus costs.

The cost of credit is the cost incurred by borrowers in obtaining loans. Borrowers incur them while obtaining loans, as they not only agree upon the conditions of loan (mainly interest rate) but also go through the procedures that are required by the lenders. The cost of borrowing is defined as the expenditure incurred at various stages from the beginning of borrowing procedure to the date of final disbursement of loan, to fulfil various formalities. The cost of borrowing consists of the cost of application, legal cost, stamp duty, processing fees, cost of obtaining clearance certificates, photographs, minimum transport cost, and bribe, if any, paid to officials and non-official and other incidental expenses incurred for securing the loan. The delay in sanction and disbursement of loans (the time lag between the date of application and the date of disbursement) also affects the cost of credit. Apart from these economic costs, the farmers also tolerate inconvenience, sacrifices, humiliation, etc. for fulfilling the formalities in getting loan which is termed as social cost. The social harassment of the borrowers in obtaining loan from the different institutional agencies hinders the normal function and created instability and in fructuous activities of the credit institutions. This phenomenon of social cost directly hinders the growth of rural development.

Another most important bearing on business transactions is trust. Lower the information asymmetry, higher the trust and lower is the transaction costs and vice versa. The absence of trust between two parties, legal safeguards is the substitute measures and this is referred to as the transaction cost by the economists. The information asymmetry about the transacting parties among the transacting parties themselves which makes the parties trust each other with caution and legal safeguards; this entails a kind of

payment to bridge the gap through intermediation. The subsidised credit policy has been eroded both in the quality of services and the trust in banking institutions. As the trust is higher with higher levels of information about each other the less documentation is required for immediate decision on sanction and disbursement of loan amount and it leads to very low transaction cost due to lack of information costs. In many countries low-income people who have entrusted their savings to small unsupervised financial institutions have lost their lifetime savings. It leads to destroy the safe, liquid and remunerative savings and ability to smooth consumption with their own resources, and allows them to avoid having to carry the burden of debt repayments during income downswings. The government expenditure on rural infrastructure that reduces farmers' risks will likely reduce the importance of information asymmetries, improve the level of competition, and therefore reduce the distortions in rural credit markets.

CONCLUSION

There is a strong positive relationship between agricultural productivity and availability of credit. The credit facilitates the adoption of new technology and the level of inputs usage which in turn directly influence the productivity. The total factor productivity (TFP) implies that how much output is obtained from a given set of inputs. The TFP differences reflect shifts in the isoquants of a production function. The credit demand for a farmer is functionally related with the cost of exogenous inputs which are called economic costs and apart from the economic costs farmers also bear social costs as like inconvenience, sacrifices, humiliations, etc. for fulfilling the formalities in getting loan. Trust has a significant bearing on banking transactions. Lower the information asymmetry, higher the trust and lower is the transaction cost and vice versa. If the people have lost their lifetime savings by the unsupervised financial institutions it will destroy the safe, liquid and remunerative savings and the most importantly lost their trust on banking institutions.

REFERENCE Desai, B.M. (1989). "Objectives and role of institutional finance for agricultural | and rural development". Vol. 14, No. 2, April- June 1989, | Centre for Management in Agriculture, Indian Institute of | Management, Ahmedabad, India. | Ghani, E. and Suri, V. (1999). "Productivity Growth, Capital Accumulation, and | the Banking Sector: Some Lesson from Malaysia". | The World Bank, Policy Research Working Paper | Series: 2252. | Inderst, Roman (2008). "Irresponsible Lending With a Better Informed Lender." | The Economic Journal, Royal Economic Society, Oxford | OX42DQ, UK, Vol. 118 No. 537, October 2008. | Iqbal, Muhammad, Ahmad, Munir and Abbas, Kalbe (2003). "The Impact of | Institutional Credit on Agricultural Production in | Pakistan". The Pakistan Development Review 42: 4 | Part. II (Winter 2003) Pp. 469-485. | Linh, Vu Hoang, (2009). "Vietnam's Agricultural Productivity: A Malmquist | Index Approach", Vietnam Development Forum, | Working Paper No. 0903, May. | Patil, Balasaheb Vikhe (2005). "Rural Banking: Problem of Localised Banking | Institutions". Economic and Political Weekly, Vol. XL, No. 12. | | Puhazhendhi, V. And Jayaraman, B. (1999). "Rural Credit Delivery: Performance | and Challenges Before Banks". Economic and Political Weekly, Vol. XXXIV | Nos. 3& 4. | Satish, P. (2004). "Rural Finance: Role of State and State-owned Institutions". | Economic and Political Weekly, Vol. XXXIX, No. 12. | Siddiqi, Muhammad Wasif, Mazhar-ul-Haq, and Bluch, Kishwar Naheed, (2009). | "Institutional Credit: A Policy Tool for Enhancement of | Agricultural Income of Pakistan". International | Research Journal of Arts & Humanities (IRJAH), Vol. 37. | Smale, Melinda and Mohoney, Timothy,(2010). "Agricultural Productivity in | Changing Rural Worlds". Centre for Strategic & | International Studies (CSIS), Washington, DC 20006. | Vega, Cloudio Gonzalez and Graham, Douglas H. (June 1995). "State-owned Agricultural | Development Banks: Lessons and Opportunities for Microfinance. | Economic and Sociology Occasional Paper No. 2245, Rural Finance | Program, Development of Agricultural Economics, The Ohio State | University, Columbus, Oh 43210-1099. | Vyas, V.S. (2004) . "Agrarian Distress Strategies to Protect Vulnerable Sections." Economic | and Political Weekly, Vol. XXXIX No.52, December 25, 2004. |